

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>L25647A</b>	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, Item 5 below.</small>	
International application No. <b>PCT/US2006/035056</b>	International filing date (day/month/year) <b>08/09/2006</b>	(Earliest) Priority Date (day/month/year) <b>08/09/2005</b>
Applicant  <b>OWENS CORNING</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☒ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant  
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant  
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1  
☒ as suggested by the applicant  
☐ as selected by this Authority, because the applicant failed to suggest a figure  
☐ as selected by this Authority, because this figure better characterizes the invention
- b. ☐ none of the figures is to be published with the abstract

# INTERNATIONAL SEARCH REPORT

national application No  
PCT/US2006/035056

## A. CLASSIFICATION OF SUBJECT MATTER

INV. C08J9/00 C08J9/20 C08J9/232

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
C08J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 209 189 A (ATOFINA CHEM INC [US] ARKEMA INC [US]) 29 May 2002 (2002-05-29)	21,23
Y	paragraphs [0009], [0014] claims	22
Y	US 5 779 775 A (KUWABARA SHIN [JP] ET AL) 14 July 1998 (1998-07-14) column 3, lines 50-56 column 4, lines 8-13 claims 1-3	22

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

### \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

20 February 2008

Date of mailing of the international search report

23/04/2008

Name and mailing address of the ISA/

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Authorized officer

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2006/035056

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

22-23

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 21-23

A blowing agent/nanoclay suspension comprising a nanoclay particle and a blowing agent.  
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2. claims: 1-13

Expandable polymer beads comprising a polymeric matrix and an emulsified water/nanoclay particle. A method for forming a foamed product using said expandable polymer beads.  
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3. claims: 14-20

A method for forming a foamed product using nanoclay particles encapsulated in a superabsorbent material.  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/035056

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1209189	A	29-05-2002	AT 298773 T	15-07-2005
			BR 0105725 A	02-07-2002
			CA 2358846 A1	28-05-2002
			DE 60111707 D1	04-08-2005
			DE 60111707 T2	04-05-2006
			ES 2241753 T3	01-11-2005
			JP 2002212330 A	31-07-2002
			MX PA01009381 A	20-08-2003
			PT 1209189 T	30-09-2005
			US 6518324 B1	11-02-2003
US 5779775	A	14-07-1998	CA 2202754 A1	13-03-1997
			EP 0791612 A1	27-08-1997
			WO 9709362 A1	13-03-1997
			JP 9071623 A	18-03-1997